

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332135-935

Luminaire Tested: **S123DIW-S560D1030U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332135-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S560D1030U935-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5114.5 lumens
Efficiency: N/A
Efficacy: 113.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

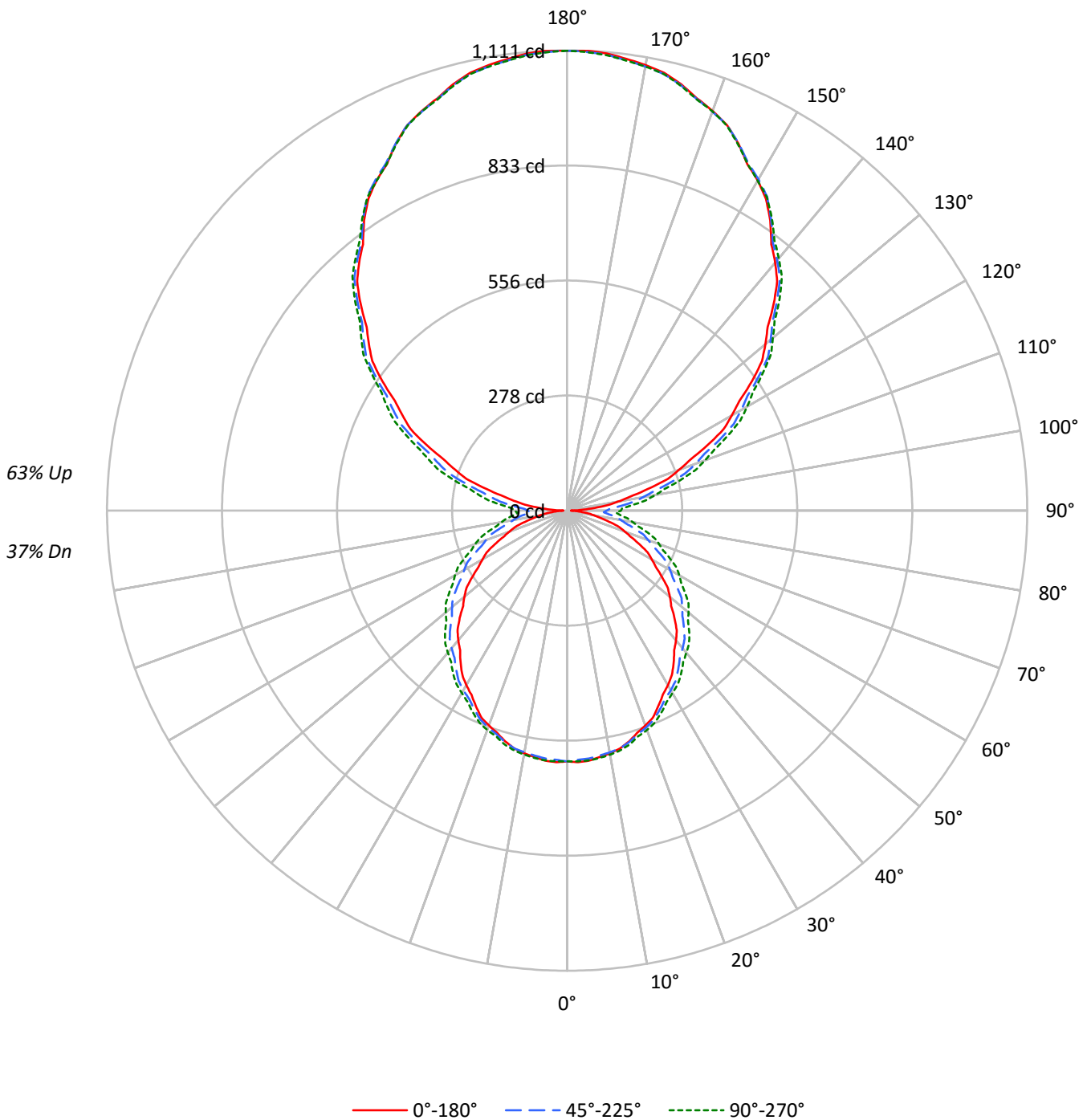
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332135-935

CATALOG NUMBER: S123DIW-S560D1030U935-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P332135-935

CATALOG NUMBER: S123DIW-S560D1030U935-4F0-1E-UDD-D1

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10	0		
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	104	104	104	104	94	94	94	94	76	76	76		59	59	59		44	44	44	37
1	94	89	85	82	85	81	77	74	65	63	60		51	49	48		37	36	35	29
2	85	78	71	66	77	70	65	60	57	53	49		44	41	39		32	31	29	24
3	78	68	60	55	70	62	55	50	50	45	41		39	35	33		28	26	24	20
4	71	60	52	46	64	54	47	42	44	39	35		34	31	28		25	23	21	17
5	65	53	45	39	58	48	41	36	39	34	30		31	27	24		23	20	18	14
6	60	48	39	34	54	43	36	31	35	30	26		28	24	21		21	18	16	13
7	55	43	35	29	50	39	32	27	32	26	23		25	21	18		19	16	14	11
8	51	39	31	26	46	35	28	24	29	24	20		23	19	16		17	14	12	10
9	47	35	28	23	43	32	26	21	26	21	18		21	17	14		16	13	11	9
10	44	32	25	20	40	29	23	19	24	19	16		19	16	13		15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6518	6518	6518
5°	6537	6352	6357
10°	6480	6207	6175
15°	6395	6040	5978
20°	6277	5850	5760
25°	6129	5632	5532
30°	5977	5436	5300
35°	5809	5228	5116
40°	5647	5038	4917
45°	5468	4857	4759
50°	5291	4678	4584
55°	5097	4494	4428
60°	4906	4308	4266
65°	4710	4109	4076
70°	4418	3885	3878
75°	4048	3629	3679
80°	3620	3378	3451
85°	3222	3204	3317



TEST NUMBER: P332135-935

CATALOG NUMBER: S123DIW-S560D1030U935-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.4	1.1
10°-20°	163.6	3.2
20°-30°	244.7	4.8
30°-40°	292.2	5.7
40°-50°	305.8	6.0
50°-60°	286.9	5.6
60°-70°	239.6	4.7
70°-80°	171.5	3.4
80°-90°	105.5	2.1
90°-100°	136.5	2.7
100°-110°	263.7	5.2
110°-120°	399.7	7.8
120°-130°	502.4	9.8
130°-140°	552.5	10.8
140°-150°	536.9	10.5
150°-160°	450.6	8.8
160°-170°	299.9	5.9
170°-180°	105.0	2.1
0°-30°	465.7	9.1
0°-40°	758.0	14.8
0°-60°	1350.7	26.4
0°-90°	1867.3	36.5
90°-120°	799.9	15.6
90°-150°	2391.7	46.8
90°-180°	3247.0	63.5
0°-180°	5114.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	606	605	601	606	606	57
15°	577	579	578	585	584	162
25°	521	527	530	538	538	240
35°	448	459	468	477	480	280
45°	367	383	399	411	417	283
55°	280	302	325	342	348	250
65°	193	219	248	267	274	191
75°	105	136	169	190	198	112
85°	32	65	100	122	129	34
90°	10	51	96	120	130	9
95°	59	91	130	153	160	64
105°	202	220	255	273	282	216
115°	374	385	407	423	428	370
125°	545	548	565	574	576	486
135°	705	710	716	724	726	543
145°	855	856	858	862	862	533
155°	978	978	979	982	976	450
165°	1065	1063	1062	1067	1062	300
175°	1108	1104	1104	1109	1104	105
180°	1110	1110	1110	1110	1110	



TEST NUMBER: P332135-935

CATALOG NUMBER: S123DIW-S560D1030U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	608.1	607.8	607.4	607.0	606.7	606.1	605.1	604.2	603.2	602.3	603.2
5°	606.1	605.8	605.5	605.3	604.9	604.3	603.5	602.6	601.8	600.8	602.0
7.5°	600.2	600.2	600.3	600.4	600.5	600.0	599.2	598.3	597.4	596.6	598.1
10°	595.0	595.2	595.5	595.8	596.1	595.9	595.1	594.4	593.7	593.0	594.4
12.5°	588.6	589.0	589.4	589.8	590.2	590.2	589.7	589.2	588.7	588.1	589.5
15°	577.1	577.6	578.0	578.4	578.9	579.0	578.9	578.7	578.6	578.4	579.9
17.5°	562.6	563.4	564.4	565.2	566.1	566.5	566.5	566.4	566.4	566.3	567.6
20°	552.1	552.9	553.8	554.7	555.5	556.1	556.5	556.7	557.0	557.3	558.6
22.5°	541.0	541.8	542.7	543.6	544.5	545.1	545.5	546.0	546.4	546.7	548.5
25°	521.1	522.5	524.0	525.5	526.9	527.9	528.3	528.7	529.2	529.6	531.5
27.5°	501.0	502.7	504.4	506.0	507.6	508.9	509.9	510.8	511.8	512.7	514.4
30°	486.7	488.6	490.5	492.5	494.4	495.9	497.1	498.3	499.4	500.6	502.4
32.5°	470.9	473.0	475.2	477.3	479.5	481.3	482.8	484.3	485.9	487.4	489.3
35°	448.5	450.8	453.1	455.6	457.9	460.0	461.9	463.8	465.7	467.6	469.8
37.5°	424.7	427.4	430.0	432.7	435.3	437.8	440.1	442.5	444.8	447.2	449.7
40°	408.9	411.6	414.2	416.8	419.5	422.2	425.2	428.1	431.0	433.9	436.4
42.5°	391.5	394.8	398.0	401.1	404.4	407.5	410.6	413.6	416.7	419.7	422.5
45°	366.7	370.2	373.8	377.3	380.7	384.4	388.1	391.7	395.4	399.0	401.8
47.5°	340.7	344.7	348.7	352.7	356.6	360.8	365.0	369.1	373.3	377.5	380.6
50°	323.8	328.0	332.0	336.1	340.3	344.6	349.1	353.7	358.2	362.7	366.1
52.5°	305.9	310.2	314.6	318.9	323.2	328.0	332.9	337.9	342.9	348.0	351.5
55°	279.7	284.5	289.3	294.1	299.0	304.0	309.4	314.6	319.9	325.1	329.1
57.5°	254.1	259.1	264.2	269.1	274.2	279.7	285.4	291.2	297.0	302.7	306.7
60°	236.1	241.4	246.7	251.9	257.2	262.9	268.9	274.9	280.9	286.9	291.0
62.5°	219.2	224.6	230.1	235.4	240.8	246.7	253.0	259.4	265.8	272.2	276.2
65°	193.2	199.0	204.7	210.4	216.1	222.2	228.7	235.1	241.5	248.0	252.4
67.5°	166.9	173.0	179.0	185.0	191.1	197.4	204.1	210.6	217.1	223.7	228.5
70°	148.4	154.7	161.0	167.3	173.6	180.3	187.3	194.3	201.4	208.4	213.1
72.5°	131.5	137.8	144.1	150.4	156.7	163.5	170.7	178.1	185.3	192.6	197.4
75°	104.9	111.8	118.6	125.5	132.4	139.6	146.9	154.2	161.5	168.8	173.7
77.5°	81.6	88.6	95.6	102.5	109.4	116.6	124.0	131.4	138.8	146.2	151.3
80°	65.3	72.5	79.6	86.9	94.0	101.4	109.0	116.7	124.3	131.9	136.9
82.5°	51.1	58.4	65.6	72.9	80.2	87.7	95.5	103.2	111.0	118.7	123.7
85°	32.3	39.6	47.0	54.3	61.6	69.1	77.0	84.7	92.5	100.2	105.2
87.5°	17.7	25.4	33.1	40.8	48.5	56.3	64.3	72.2	80.2	88.3	93.3
90°	9.5	18.6	27.7	36.8	45.9	55.4	65.5	75.5	85.5	95.5	101.3
92.5°	29.2	36.9	44.8	52.5	60.4	68.6	77.4	86.2	95.1	103.8	109.3
95°	58.7	65.8	72.8	79.9	87.0	94.9	103.7	112.4	121.1	129.8	135.2
97.5°	97.9	104.0	110.2	116.4	122.5	129.6	137.6	145.6	153.6	161.5	166.8
100°	124.6	130.4	136.3	142.2	148.0	154.7	162.5	170.2	177.9	185.6	190.5
102.5°	155.4	160.4	165.3	170.2	175.1	181.5	189.4	197.3	205.3	213.2	217.8
105°	201.6	205.4	209.4	213.3	217.1	223.2	231.2	239.3	247.3	255.3	259.4
107.5°	254.5	257.7	261.0	264.2	267.3	272.3	279.0	285.7	292.4	299.0	303.6
110°	287.5	290.5	293.5	296.5	299.5	304.2	310.5	316.7	323.0	329.2	333.8



TEST NUMBER: P332135-935

CATALOG NUMBER: S123DIW-S560D1030U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	322.4	324.8	327.2	329.6	331.9	336.0	341.7	347.4	353.1	358.9	363.4
115°	374.0	376.3	378.7	381.1	383.4	387.0	391.9	396.7	401.7	406.6	410.3
117.5°	426.5	428.1	429.6	431.0	432.5	435.4	439.9	444.4	448.8	453.2	456.7
120°	458.8	460.7	462.6	464.5	466.4	469.3	473.2	477.1	481.0	484.7	487.9
122.5°	493.0	494.3	495.5	496.7	498.0	500.7	504.7	508.9	512.9	517.0	519.8
125°	544.6	545.1	545.7	546.3	546.9	549.1	552.9	556.8	560.7	564.6	566.9
127.5°	592.7	593.8	594.9	596.0	597.1	599.2	602.3	605.4	608.5	611.6	613.4
130°	624.8	626.2	627.6	629.0	630.4	632.3	634.6	637.0	639.4	641.7	643.7
132.5°	656.3	657.9	659.4	660.9	662.5	664.2	666.1	668.0	669.9	671.8	673.6
135°	705.2	706.3	707.3	708.3	709.3	710.6	712.0	713.3	714.8	716.2	718.1
137.5°	750.4	751.3	752.2	753.0	753.9	755.0	756.5	757.9	759.2	760.7	762.2
140°	781.4	782.3	783.3	784.3	785.2	786.0	786.7	787.3	787.9	788.6	790.6
142.5°	809.9	810.8	811.7	812.5	813.4	814.0	814.4	814.9	815.4	815.8	817.5
145°	854.6	854.9	855.1	855.3	855.6	856.0	856.6	857.2	857.7	858.3	859.3
147.5°	893.0	893.7	894.4	895.2	895.9	896.5	897.0	897.6	898.1	898.6	899.0
150°	920.2	920.7	921.0	921.4	921.8	922.2	922.6	923.0	923.3	923.8	923.8
152.5°	942.6	943.1	943.7	944.3	944.8	945.1	945.4	945.6	945.9	946.1	946.4
155°	977.8	977.8	977.8	977.8	977.8	977.9	978.1	978.4	978.5	978.7	979.5
157.5°	1007.9	1007.6	1007.4	1007.1	1006.9	1006.9	1007.0	1007.2	1007.4	1007.5	1008.3
160°	1026.7	1026.3	1025.9	1025.5	1025.1	1024.9	1024.9	1024.9	1024.9	1024.9	1025.9
162.5°	1043.4	1042.9	1042.3	1041.8	1041.3	1041.0	1041.2	1041.4	1041.6	1041.7	1042.7
165°	1065.1	1064.5	1063.9	1063.3	1062.7	1062.5	1062.5	1062.5	1062.5	1062.5	1063.6
167.5°	1082.4	1081.6	1080.8	1080.0	1079.3	1078.9	1079.1	1079.3	1079.4	1079.5	1080.7
170°	1092.1	1091.3	1090.5	1089.8	1089.0	1088.6	1088.6	1088.6	1088.6	1088.6	1089.9
172.5°	1099.8	1099.0	1098.2	1097.4	1096.7	1096.3	1096.3	1096.3	1096.3	1096.3	1097.5
175°	1107.8	1107.1	1106.3	1105.5	1104.7	1104.3	1104.3	1104.3	1104.3	1104.3	1105.5
177.5°	1111.1	1110.5	1109.9	1109.2	1108.6	1108.4	1108.4	1108.4	1108.4	1108.4	1109.2
180°	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4



TEST NUMBER: P332135-935

CATALOG NUMBER: S123DIW-S560D1030U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	604.2	605.1	606.1	606.5	606.3	606.2	606.1	606.0
5°	603.2	604.3	605.5	606.1	605.9	605.7	605.6	605.5
7.5°	599.5	601.0	602.5	603.1	603.0	602.8	602.6	602.4
10°	595.9	597.4	598.8	599.3	599.1	598.8	598.5	598.2
12.5°	590.9	592.2	593.6	594.1	593.8	593.5	593.2	593.0
15°	581.3	582.8	584.3	585.0	584.8	584.6	584.5	584.4
17.5°	568.9	570.2	571.5	572.1	571.9	571.7	571.5	571.3
20°	560.0	561.3	562.6	563.4	563.4	563.6	563.8	563.9
22.5°	550.1	551.8	553.5	554.2	554.1	554.1	554.0	553.9
25°	533.4	535.4	537.3	538.2	538.2	538.2	538.2	538.2
27.5°	516.0	517.6	519.3	520.2	520.3	520.4	520.6	520.6
30°	504.1	505.8	507.6	508.5	508.5	508.5	508.5	508.5
32.5°	491.1	493.0	494.9	496.0	496.4	496.7	497.1	497.4
35°	472.0	474.2	476.4	477.8	478.4	479.0	479.6	480.2
37.5°	452.1	454.6	457.1	458.7	459.1	459.5	460.0	460.5
40°	438.9	441.4	443.9	445.5	446.1	446.7	447.2	447.8
42.5°	425.2	427.9	430.7	432.4	433.3	434.0	434.9	435.7
45°	404.6	407.3	410.2	412.2	413.3	414.5	415.7	416.8
47.5°	383.8	386.9	390.0	392.1	393.0	393.9	394.9	395.7
50°	369.5	372.9	376.3	378.4	379.4	380.5	381.5	382.5
52.5°	355.0	358.4	362.0	364.3	365.6	366.8	368.1	369.4
55°	333.0	337.0	341.0	343.5	344.7	345.9	347.1	348.3
57.5°	310.7	314.7	318.7	321.3	322.7	324.1	325.5	326.8
60°	295.2	299.2	303.3	306.2	307.8	309.4	311.0	312.6
62.5°	280.3	284.5	288.5	291.4	292.8	294.3	295.8	297.3
65°	256.8	261.1	265.6	268.5	270.0	271.5	272.9	274.4
67.5°	233.3	238.2	243.0	246.0	247.2	248.4	249.7	250.9
70°	217.8	222.5	227.2	230.2	231.7	233.2	234.6	236.1
72.5°	202.2	207.0	211.8	215.0	216.5	217.9	219.4	220.8
75°	178.5	183.4	188.2	191.5	193.2	195.0	196.7	198.5
77.5°	156.4	161.4	166.5	169.8	171.2	172.5	173.8	175.2
80°	141.9	146.9	151.9	155.1	156.5	158.0	159.5	160.9
82.5°	128.7	133.6	138.6	141.9	143.4	144.8	146.3	147.7
85°	110.2	115.2	120.2	123.4	124.8	126.3	127.8	129.2
87.5°	98.5	103.7	108.7	112.1	113.7	115.2	116.8	118.3
90°	107.0	112.7	118.5	122.3	124.2	126.1	127.9	129.8
92.5°	114.8	120.3	125.7	129.1	130.2	131.3	132.4	133.5
95°	140.5	145.8	151.1	154.5	156.0	157.5	158.9	160.4
97.5°	172.1	177.4	182.6	185.9	187.3	188.7	190.1	191.5
100°	195.3	200.1	204.9	208.3	210.2	212.0	213.9	215.7
102.5°	222.6	227.3	232.0	235.1	236.4	237.8	239.2	240.6
105°	263.6	267.6	271.7	274.7	276.4	278.1	279.7	281.5
107.5°	308.2	312.7	317.2	320.0	321.1	322.2	323.2	324.3
110°	338.4	342.9	347.5	350.3	351.0	351.8	352.6	353.4



TEST NUMBER: P332135-935

CATALOG NUMBER: S123DIW-S560D1030U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	368.1	372.7	377.3	380.2	381.4	382.6	383.9	385.1
115°	414.0	417.7	421.4	423.8	424.7	425.7	426.7	427.7
117.5°	460.1	463.6	467.0	469.1	469.7	470.3	470.9	471.5
120°	491.1	494.3	497.5	499.4	500.1	500.7	501.3	502.0
122.5°	522.5	525.3	528.1	529.7	530.1	530.6	531.1	531.6
125°	569.1	571.4	573.8	575.1	575.3	575.5	575.8	576.0
127.5°	615.2	617.0	618.8	619.7	619.8	620.0	620.1	620.2
130°	645.7	647.7	649.7	650.5	650.1	649.5	649.0	648.6
132.5°	675.3	677.1	678.8	679.7	679.6	679.5	679.5	679.4
135°	720.0	721.8	723.7	724.8	725.1	725.5	725.8	726.2
137.5°	763.7	765.2	766.7	767.4	767.4	767.4	767.4	767.4
140°	792.6	794.6	796.6	797.3	796.7	796.0	795.4	794.8
142.5°	819.3	821.0	822.9	823.5	823.3	822.9	822.6	822.3
145°	860.3	861.3	862.3	862.6	862.5	862.3	862.1	861.9
147.5°	899.3	899.7	900.0	899.9	899.2	898.6	898.0	897.3
150°	923.8	923.8	923.8	923.3	922.5	921.6	920.8	919.8
152.5°	946.7	947.0	947.4	947.0	946.1	945.1	944.2	943.2
155°	980.2	981.0	981.8	981.5	980.2	978.8	977.5	976.1
157.5°	1009.1	1010.0	1010.7	1010.6	1009.5	1008.5	1007.4	1006.3
160°	1026.9	1027.9	1028.8	1028.9	1028.1	1027.3	1026.6	1025.8
162.5°	1043.6	1044.6	1045.6	1045.4	1044.2	1042.9	1041.7	1040.4
165°	1064.8	1065.9	1067.1	1067.0	1065.7	1064.3	1062.9	1061.6
167.5°	1081.9	1083.1	1084.3	1084.3	1083.1	1081.9	1080.7	1079.5
170°	1091.3	1092.7	1094.1	1094.1	1092.7	1091.3	1089.9	1088.6
172.5°	1098.7	1099.9	1101.1	1101.0	1099.7	1098.3	1096.9	1095.6
175°	1106.6	1107.8	1109.0	1108.9	1107.5	1106.1	1104.8	1103.5
177.5°	1110.2	1111.1	1112.1	1112.0	1110.9	1109.8	1108.7	1107.7
180°	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4	1110.4

(END OF REPORT)